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**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of

**Wolfgang BECKER, Markus BECK, Klaus GOTH,  
Mike PAELMER, Claus-Dieter REINIGER and  
Daniel ZAUNER**

Appln. No.: **10/790,387**

Confirmation No.: **1070**

Filed: **March 1, 2004**

Group Art Unit: **1725**

For: **PROCESS FOR LASER BEAM WELDING WITH  
REDUCED FORMATION OF END CRATERS**

Attorney Docket No.: **3926.071**

Customer Number: **000041288**

**INFORMATION DISCLOSURE STATEMENT  
UNDER 37 C.F.R. §1.97 and §1.98**

**Mail Stop Amendment**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. §1.56, Applicants hereby notify the U.S. Patent and Trademark Office of the following documents for the above-identified application. Copies of the documents set forth below and listed on the attached Form PTO-1449, and copy of a German Office Action which was mailed July 1, 2004 in the corresponding German patent application, in which these documents were cited, are provided herewith.

1. German Patent Application No. 102 29 744 A1
2. Patent Abstract of Japan No. 60 216 987 A

U.S. PATENT APPLICATION  
SERIAL NO.: 10/790,387  
INFORMATION DISCLOSURE STATEMENT

ATTY DOCK: 3926.071

3. German Patent Application No. 196 32 415 A1
4. German Patent Application No. 197 50 156 A1
5. German Patent Application No. 196 27 913 A1
6. German Patent Application No. 100 27 148 A1

**Document 1**

German Patent Application No. 102 29 744 A1 entitled "METHOD FOR FAULT-FREE WELDING IN THE START/STOP REGION" published on January 15, 2004. In the German Office Action Document 1 was cited as particularly relevant to claims 1 and 3.

Applicants are not aware of any English language document equivalent to Document 2, other than an English language abstract of patent family: WO2004004958:

The invention relates to a method for fault-free welding in the start/stop region, characterized in that the guiding of the laser beam in the start and stop region is optimally controlled by a combination of measures for the field energy of the laser beam.

**Document 2**

Patent Abstract of Japan No. 60 216 987 A entitled "LASER WELDING METHOD" published on October 30, 1985.

English language abstract of Document 2:

PURPOSE: To obtain a weld zone having a small crater part with thorough penetration by decreasing the output of laser light and changing the distance between a condenser system and a material to be worked to blur the focus thereof in the stage of

ending welding by a set program. CONSTITUTION: A laser weld line and the end point of welding are preliminarily programmed. The laser light transmitted from a laser oscillator is condensed and is irradiated on the weld zone of materials to be welded. The materials to be welded are driven and are welded by said light. The distance between the laser light condensing part and the weld zone are increased or decreased to blur the focus of the laser light and to decrease the irradiation intensity at the terminal end of welding just prior to the end of laser welding. The output of the laser light is decreased or stopped at the same instant.

**Document 3**

German Patent Application No. 196 32 415 A1 entitled "Manufacturing method for picture tube frames" published on February 12, 1998.

Applicants are not aware of any English language document equivalent to Document 3, other than an English language abstract:

Manufacturing method for metal frames for electron beam picture tubes by weld-joining at least two starting parts and subsequent forming by deep drawing. The flat starting parts are positioned with welding edges butting and weld-joined by at least one laser beam, the frame blanks with at least two weld joints thereafter being press-formed conventionally.

**Document 4**

German Patent Application No. 197 50 156 A1 entitled "Numerical control of a machine tool with variable radiation power" published on May 20, 1999.

Applicants are not aware of any English language document equivalent to Document 4, other than an English language abstract:

The radiation power is controlled as an fictitious interpolation axis dependent on the position of the beam on a predetermined path. The machine tool is provided with a radiation source of variable power and a numerical control system capable of controlling the radiation power of this source dependent on the position of the beam on a predetermined path.

**Document 5**

German Patent Application No. 196 27 913 A1 entitled "Strahlgeschweisstes Karosseriebauteil zur Aufnahme einer Crash-Belastung" published on February 6, 1997.

Applicants are not aware of any English language document equivalent to Document 5. The German Examiner cited this Document 5 merely as an example that for reduction of end craters it is known to reduce the power of the laser (see Document 5 Fig. 3).

**Document 6**

German Patent Application No. 100 27 148 A1 entitled "Laser machining device has focused laser, movably adjustable scanner

U.S. PATENT APPLICATION  
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mirror in beam path; adaptive focusing mirror, deflection mirror, adjustable mirror can be placed before scanner mirror" published on December 6, 2001.

Applicants are not aware of any English language document equivalent to Document 6, other than an English language abstract:

The device has a laser source and at least one mirror arranged in the laser beam path. A movably adjustable scanner mirror (10) can be arranged in the laser beam path. An adjustable adaptive focusing mirror (12), a deflection mirror (16) and an adjustable mirror (18) can be arranged in the laser beam path before the scanner mirror.

The present Information Disclosure Statement is being filed after the later of three months from the application's filing date and the mailing date of the first Office Action on the merits, but before a final Office Action or Notice of Allowance (whichever is earlier) and, therefore, Applicants are filing concurrently herewith a Certification Under 37 C.F.R. §1.97(e). No fee under 37 C.F.R. §1.17(p) is required.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedated or otherwise remove any listed document as a competent reference against the claims of the present application.

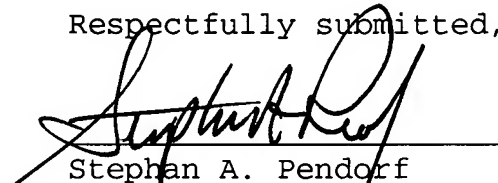
U.S. PATENT APPLICATION  
SERIAL NO.: 10/790,387  
INFORMATION DISCLOSURE STATEMENT

ATTY DOCK: 3926.071



Applicant respectfully requests that the listed documents be considered by the Examiner and be made of record in the present application and that an initialed copy of Form PTO-1449 be returned in accordance with MPEP §609.

Respectfully submitted,

  
Stephan A. Pendorf  
Reg. No. 32, 665

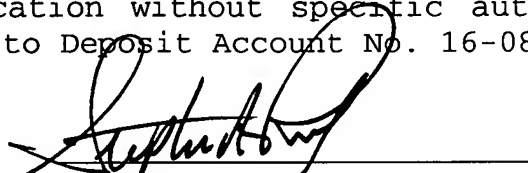
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Tampa, Florida 33634-7356  
(813)886-6085

Dated: **September 20, 2004**

**CERTIFICATE OF MAILING AND AUTHORIZATION TO CHARGE**

I hereby certify that the foregoing INFORMATION DISCLOSURE STATEMENT Form PTO-1449, including six (6) documents, for U.S. Application No. 10/790,387 filed March 1, 2004, were deposited in first class U.S. mail, postage prepaid, P.O. Box 1450, Alexandria, VA 22313-1450, on **September 20, 2004**.

The Commissioner is hereby authorized to charge any additional fees which may be required at any time during the prosecution of this application without specific authorization, or credit any overpayment, to Deposit Account No. 16-0877.

  
Stephan A. Pendorf

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for H.R. 1449/PTO

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

*(use as man sheets as necessary)*

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of

**Complete If Known**

Application Number	10/790,387
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Filing Date	03/01/2004
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First Named Inventor	Wolfgang Becker
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Art Unit	1725
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**Examiner Name**      **Geoffrey S. Evans**

Attorney Docket No.	3926.071
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## U.S. PATENT DOCUMENTS

[illegible]

## FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document Country Code <sup>3</sup> Number <sup>5</sup> (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T
		DE 102 29 744 A1	01/15/2004	Lothar Winter et al.		N
		JP 60 216 987 A (abstract)	10/30/1985	Sano Naoto et. al		N
		DE 196 32 415 A1	02/12/1998	Gerd Bandelin et al.		N
		DE 197 50 156 A 1	05/20/1999	Arne Quitzow		N
		DE 196 27 913 A 1	02/06/1997	Thorge Hammer et al.		N
		DE 100 27 148 A1	12/06/2001	Thorge Hommer et al.		N

**Examiner Signature**

Date Considered

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. 1 Applicant's unique citation designation number (optional). 2 See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. 6 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



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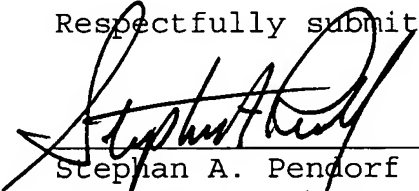
Commissioner for Patents  
P.O.Box 1450  
Alexandria, VA 22313-1450

Sir:

The undersigned hereby certifies:

That each item of information contained in the Information Disclosure Statement filed concurrently herewith was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of said Information Disclosure Statement.

Respectfully submitted,

  
Stephan A. Pendorf  
Reg. No. 32, 865

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Dated: June 20, 2003



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CERTIFICATION UNDER 37 C.F.R. §1.97(e)

ATTY. DOCKET: 3926.071



**CERTIFICATE OF MAILING AND AUTHORIZATION TO CHARGE**

I hereby certify that the foregoing CERTIFICATION for U.S. Application No. 10/790,387 filed March 1, 2004, were deposited in first class U.S. mail, postage prepaid, addressed: Attn: Commissioner of Patents and Trademarks, P.O.Box 1450 Alexandria VA 22313-1450 on **September 20, 2004**.

The Commissioner is hereby authorized to charge any additional fees which may be required at any time during the prosecution of this application without specific authorization, or credit any overpayment, to Deposit Account No. 16-0877.

Stephan A. Pendorf